US EPA RECORD CENTER REGION 5
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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF INDIANA
SOUTH BEND DIVISION

978366

* * * * * * *

UNITED STATES OF AMERICA, *

Plaintiff * No. S90-00056
* Judge Robert J. Miller

vs. *

CONSOLIDATED RAIL CORPORATION, a/k/a CONRAIL, *

Defendant *

* * * * * * *

DEPOSITION OF

KENNETH DUANE REED

Taken on behalf of the Plaintiff herein, pursuant to the Rules of Civil Procedure, taken before me the undersigned, Christine M. Leisure, a Court Reporter and Commissioner of Deeds in and for the Commonwealth of Pennsylvania, at the offices of Sargent's Court Reporting Service, 518 Allegheny Street, Hollidaysburg, Pennsylvania, on Thursday, July 22, 1993, at 1:00 p.m.

APPEARANCES

COUNSEL FOR PLAINTIFF:	PETER H. RUVOLO, ESQUIRE Environmental Enforcement Section Environment and Natural Resources Division United States Department of Justice P.O. Box 7611 Ben Franklin Station Washington, D.C. 20044
COUNSEL FOR DEFENDANT: (Pennsylvania Central Corporation)	PIERCE E. CUNNINGHAM, ESQUIRE FROST & JACOBS 2500 Central Trust Center 210 East Fifth Street Cincinnati, OH 45202
COUNSEL FOR ADDITIONAL DEFENDANT: (Conrail)	JAMES A. ERMILIO, ESQUIRE BINGHAM, DANA & GOULD Suite 1200 1550 M Street Northwest Washington, D.C. 20005

I N D E X

EXHIBITS:

Plaintiff's

ONE - Letter to Mr. Reed of 7/15/93

TWO - Notice of Deposition of Kenneth Reed

THREE - Subpoena to Kenneth Reed

FOUR - Memo of 7/5/93

FIVE - Memo of 7/25/79

SIX - Memo of 7/30/79

Defendant's

ONE - Memo of 1/20/75

OBJECTION PAGE

P R O C E E D I N G S

- -

KENNETH DUANE REED, HAVING FIRST BEEN DULY SWORN, TESTIFIED AS FOLLOWS:

- -

EXAMINATION

BY ATTORNEY RUVOLO:

Q. Mr. Reed, for the record would you state your full name, please?

A. Full name?

Q. Whichever one you want to use.

A. Kenneth Duane Reed.

Q. Are you also known as K.D. Reed?

A. Yeah, that's what I was listed under the railroad and everybody called me Ken, which nobody else calls me. My family calls me Duane and all my friends.

Q. I'm going to ask you to look at me and talk so that the Court Reporter can pick up what you say clearly so we don't get any misinterpretations. Could you state your address, please?

A. Post Office Box 1285, Altoona, Pennsylvania, 16603.

Q. And the telephone number at which you could be reached?

A. (b) (6)

Q. Mr. Reed, my name is Peter Ruvolo, I'm with the Department of Justice and we represent the Environmental Protection Agency in this case, which is against Conrail and involves alleged environmental damage at the Elkhart facility. You've met Mr. Ermilio, he represents Conrail and Mr. Cunningham represents the former owner of the railyard, Penn Central Corporation.

I'm going to ask you a few questions and if you don't understand any of them, please let me know, don't hesitate and I'll try to rephrase them. If at any time you want to take a break or a little time for yourself, don't hesitate to ask and we'll be glad to comply. Mr. Reed, were you served with documents by my office?

A. Yes.

Q. Did you bring those documents with you, sir?

A. Yes.

Q. May I see them?

EXHIBITS MARKED

Q. Mr. Reed, I show you Plaintiff's Exhibit One for identification, which is a letter dated July 15th, 1993, from me to you; is that what you received, sir?

A. Yes.

Q. And as you note, the letter states that you

are not a party in this action, you are being called as a witness; do you understand that, sir?

A. Right.

Q. As a witness you are entitled to have your own attorney if you so wish. I notice you did not bring one with you so you understand that right, however?

A. Right.

Q. And the other document was a notice for you to be here, that's Exhibit Two, which states today's date and the address of Sargent's Reporting Service; is that correct?

A. Right.

Q. And the third is a subpoena that was served along with them?

A. Right.

Q. The subpoena asked that you bring with you any documents that you had in your possession with regard to your time as a chemist with Conrail and before that Penn Central. Did you bring any documents with you, sir?

A. I have no documents. I'm retired and took nothing like that with me.

Q. Let's find out a little bit about yourself. When did you first start working for the railroad?

A. In August 1947.
Q. And what was the railroad's name at that point?
A. Pennsylvania Railroad.
Q. And in what capacity were you hired?
A. As a chemist, as an assistant chemist.
Q. I take it you have a Bachelor of Science Degree?
A. That's right.
Q. And where is that from?
A. Washington and Jefferson College.
Q. And how long did you stay with the Railroad although I know there were several name changes, but how long did you stay with the railroad?
A. I retired in the 1st of April 1981.
Q. And during that period were your functions basically that of a chemist?
A. A chemist and later more an administrator.
Q. Could you describe for us some of the various job titles that you had with ---?
A. I don't remember how long I remained an assistant chemist, but I became a chemist. In 1958, I became chief chemist. In 1968, we moved to Cleveland and I became manager of the chemical laboratory, which was really nothing but a title change. In 1970, I

became director of the research laboratory.

Q. And then you stayed in that capacity until you retired?

A. Until I retired.

Q. How many laboratories did the --- let's talk about the period, say, from 1947 up until well, 1970. How many laboratories did the railroad operate, Penn Central, at that time?

A. Oh, Penn Central, actually there was the laboratory --- Pennsylvania's main laboratory was in Altoona. They had a satellite in Conway, Pennsylvania, and Enola, Pennsylvania, for some specific testing. At the time of the merger formation of Penn Central, the laboratory in Altoona was closed and we moved to what had been the New York Central Laboratory in Collinwood, part of Cleveland, Ohio. At that time there was about five satellite laboratories that hired us to do some specific testing.

Q. Going to the period of 1976, when Conrail took over, how many laboratories were in operation?

A. In 1976, when Conrail took over, I might have to name them in order to get it. There was the main laboratory at Collinwood, there was a small satellite at Enola, Pennsylvania, one at Seikirk, New York, one at Collinwood in Ohio. There was one out in Indiana,

I'm not sure where. I forget where, to be honest with you. Indianapolis, Indianapolis, if my memory is right. That one I'm hazy on. It's been 12 years since I really gave this a thought.

Q. I understand.

A. These satellites were all mainly for the testing of diesel locomotive crank case oil.

Q. You anticipated my next question, which was how would you distinguish the satellites from the main functions of the main laboratory? That is the ---?

A. The main laboratory did everything else, and the small satellites were located at engine houses at major yards mostly to test the condition of the oil and locomotive crank cases.

Q. When you said to test the oil, what was the purpose, to see ---?

A. To see the condition of the locomotive. The oil was analyzed much most like the bloodstream in a human, you might say, to see what the condition of the locomotive was, because where products of leakage and internal leakage and this of this sort showed up was in the lubricating oil.

Q. Now, the satellites in the main laboratory, they serviced the entire operations of the railroad, the satellites in the specific areas and then the main

laboratory for all of the areas?

A. Right. Right.

Q. Could you describe some of the functions of the main laboratory, some of the testing that was done and the nature of the products?

A. The main laboratory was made up of several departments, both on the Pennsylvania and later through Penn Central and Conrail. There was a chemical laboratory that analyzed and ran quality control on the products of the type that were chemical in nature. There was a physical laboratory that did physical tests, metallurgy, stress testing and anything that came under a physical nature. There was an electronic laboratory that devised and repaired electronic measuring devices of one sort or another. There was a road test department, not always under that name, but that's what it was. It actually went out on the road and measured rail stresses, locomotive performance, causes of derailments, where things could be measured.

For awhile we had a biological laboratory that investigated, well, as an example, crown vetch to see if it was a suitable product to hold and retain banks.

Q. I'm sorry, what was the name of the product?

A. Crown vetch was a ---.

Q. Could you spell that?

A. Crown vetch was a growth that you see along interstates and things nowadays that retain banks. In other words, they were to look into anything on the railroad of a biological nature to improve and help the railroad's performance. I think that was the major --- that's a major department.

Q. Was the major emphasis of the laboratory department the maintenance of the railroad's property such as the cars and the locomotives and the tracks, did it also involve employee safety, for example?

A. There was employee safety, performance of equipment, performance of products, quality control of products, approval of suitable products, like one time up went so far as to test light bulbs for longevity. Most of the chemicals, lubricants, --- well, all of the chemicals, cleaners, lubricants and things of that sort were approved and put on approved list by the department.

Q. Were all of the cleaners and the chemical products tested by the laboratory itself or did you rely on the description, say, of the manufacturer?

A. Right. The testing was done by the laboratory. The products were offered by sales representatives of the companies. Samples were

acquired, speaking both of mechanical products and chemical products, samples were acquired and tested appropriately. And if it met the specifications where there was a spec or met a use requirement then our purchasing department were notified that they could purchase it.

Q. And in other words, when a salesman came to the corporation to sell a product, first, if it was a chemical product, would it be analyzed first by the laboratory and then approval given to the purchasing department?

A. Right, but the salesperson normally went to purchasing first. The purchasing department found out whether it was competitive pricewise, if suitable and screened it at that point for economic suitability. And if it seemed to be something they wanted, they would then ask that samples be sent to the laboratory. And that tended to dwindle some as time went on compared to the early days when everything was tested, every pound of everything. And in later years that dwindled somewhat. There were areas that were bought without sampling.

Q. And if a product was approved and then the purchasing department got the okay, would they be purchasing for the entire system, for usage throughout

the system?

A. Yes. There was an account and reference number established. The approved products were the only ones that could be bought. And they were ordered by the local supervision --- or local storage department and purchasing placed the order centrally to Philadelphia.

Q. And if, say, the head of a railroad yard in Altoona wanted to purchase a particular product, he would have to go get the okay from the purchasing department or would he come to the chemical department?

A. He had requisition forms, he placed those with the purchasing department. They placed the order, and it was shipped. If it was something that was warehoused, the storage department could handle it out of a warehouse. Some things were warehoused on the railroad. But originally they were placed in the warehouse by the purchasing department in Philadelphia.

Theoretically, nothing was purchased except through the central purchasing department. That doesn't mean that there couldn't have been some other things, but very little.

Q. Now, when your department analyzed a particular product, would it analyze for things such as toxicity?

A. We would find out what products were available, what items were available in the product, let's put it that way. We didn't do toxicity studies, but we relied on OSHA, NIOSH and medical journals and in other words, medical sources, safety department sources, to tell us whether the product was suitable.

Of course, in the early days there was no such thing. Nobody even knew there was such a thing as toxicity unless they knew somebody had fallen over dead with it. That's how it become known in the early days. But in later years we relied on OSHA and NIOSH, you name it, agencies.

Q. Would it be fair to say in your earlier days that most of the testing was done for like fire hazard or ---?

A. Most of the testing were done for quality really in the early days. And naturally any known harmful agent was not approved. But as I said, in the early days, I'm going back --- our department started in 1875. I'm going back that far when there was no knowledge of toxicity. That wasn't even a word in the dictionary probably. But when these things became known, we weeded them out.

Q. And in your opinion or could you tell us of your knowledge when it started to be ---?

A. What was that?
Q. Strike the question. When did the term toxicity and the hazards from chemicals become a more involved ---?
A. That's hard to say exactly. I don't know. I mean, it became more important as time went on. But the first time we probably --- some of the early things were outlawed in the '40s, let's say, that I'm aware of, like carbon tetrachloride and benzene and a few things like this were not used any longer.
Q. Did you use them and for what purpose?
A. Prior to that?
Q. Yes.
A. What do you mean, some specific thing?
Q. Yes, for the railroad purpose.
A. Do you mean the --- you mean carbon tetrachloride?
Q. For example.
A. Well, carbon tetrachloride was probably used longest as a fire extinguisher. The fire extinguishers and passenger cars, pyrene, you've probably seen them, little brass cylinders with the pump handle contained carbon tetrachloride because it was inflammable to put out fires. Probably --- actually my knowledge of carbon tetrachloride use is limited because it was

mostly gone before I was involved. The last vestige of its use that I know of was fire extinguishers. And as they became obsolete, individually they were replaced by something else.

I don't know of carbon tetrachloride being used for anything myself on the railroad. Benzene was used for a solvent for a while. We used it in the laboratory for a solvent for awhile until we found out it was a harmful agent and that was outlawed. So that's the two things I happened to mention.

Q. Was carbon tetrachloride ever used as a cleaning fluid? Did it used to be a popular ---?

A. To my knowledge it wasn't. Like I say, I have to rely on the only thing I can remember. I'm speaking of specifically carbon tetrachloride. I don't know of any use of it on the railroad except in fire extinguishers during my tenure. In fact, you couldn't buy it in the drug store anymore by, what, the '40s or somewhere in there.

Q. Did your department ever analyze or was it ever called upon to analyze any of the products that were shipped on the railroad?

A. Shippers products, their ownership?

Q. Yes.

A. Not unless, let's say I --- if we were --- if

there was a freight claim against us for contamination or destruction of their product in some way, I can remember a case where there was a copper ore, that may be out of the direction that you want to go, but a copper ore, that they claimed they weren't getting it. Well, they shipped so much and when it got there, it wasn't there. And we had to analyze these loads to make sure it was a certain grade of copper ore and that sort of thing.

That would be the only time if there was a claim against us that the product was destroyed in some fashion, then there would maybe be just an investigation, but it may involve an analysis or a test.

Q. Was your department in any way responsible for issuing bulletins or notices to employees about handling certain chemicals or handling products that were being shipped, for example?

A. Not directly. Again, the safety department, it was their major responsibility. We produced and distributed approved lists in certain areas that might have precautions involved with the prove list. We put out instructions on the use of paints, not with the idea of how to spray the paint on, but how many coats --- or how the surface was to be prepared, how many

coats were to go and what order were the coats to be applied, how thick they were to be, how they were to be dried, things of this sort.

And with cleaners, we would sometimes put out an instruction on the use of a cleaner, again, mostly to make sure that they used the right cleaner for the right application. And if there was a problem of any sort, maybe a caustic material that could cause burns, let's say, of the skin, if they were careless and didn't use any sort of decent hygiene, there may be a precaution there that this is a caustic material. And if you get it on you, you should wash it off or something of this nature. But that wasn't our major role, that was mostly the safety department's role, as I would understand it.

Q. Did your department ever receive any inquiries or complaints about a product because an employee had gotten ill or became allergic or developed rashes or something?

A. We have, some of it was legitimate probably and some of it was an attempt to harass the railroad. Some of it we could never trace it really. By the time we could find the employee, he was --- I mean, not questioned whether he had a rash, but his rash had healed.

And the medical department didn't seem to have an explanation, and there didn't seem to be anything in the product that should have caused it. And we'd sort of run into a dead end. And other times it was a case of seeing that the foreman would properly see that the product was properly used.

Q. Did your --- I'm sorry.

A. These were mostly --- I mean, the things I can think of are mostly some of the heavy-duty industrial cleaners that you can actually wash your hands in it, but you didn't recommend that. And if it was a constant thing you could get rashes and red skin. It would be like maybe taking laundry detergent at home and use it as a bathing soap. A lot of those products could be misused, even though they weren't what you'd call hazardous, they could cause rashes.

Q. When you talk about cleaners, I would imagine that there are different types of cleaners for different types of purposes. How about for removing oil and grease, what type of a cleaner would that be?

A. Depending on application they could be alkaline, dry powdered materials mixed with water. They were alkaline in nature with a wetting agent soap, heavy-duty industrial type soap that would emulsify and remove grease and oil, floor cleaners for that nature.

If there was a case where --- well, in tanks and things you could use solvents. Depending again, you could use a stoddard solvent which is a petroleum distillate which would remove oil and grease. And electrical equipment, there was special equipment with refrigerated belt around the top to keep vapors in that you could use some of the safest chlorinated solvents.

Q. Taking stoddard that you mentioned, was that analyzed by your department or ---?

A. Well, every shipment wasn't, but there had been --- suppliers had been analyzed. I mean there was a case whereas time went on, less and less analysis was done on something that the manufacturer could specify that this is a stoddard solvent. You could run a distillation on it and see by the range that it distilled, that that's what it was. And, I mean, yes, we analyzed stoddard solvent, but maybe all we would do is a distillation on it, so you see that it fell in the distillation range for stoddard solvent.

Q. And being a novice in the Chemistry field, what is a stoddard solvent?

A. Well, let's say it's somewhere between gasoline and kerosene if that pictures it for you. It's distilled from crude oil like gasoline is or diesel fuel is or kerosene. It's a little more

solvency than kerosene and not as volatile as gasoline.

Q. How about electrical ---?

A. Straight petroleum distillate.

Q. How about electrical cleaning products, do you recall some of them that were used?

A. Well, the chlorinated solvents were the safer ones like perchloroethylene and trichloroethylene 1,1,1, trichloroethane could be used. At one time they were totally outlawed and then when the equipment was acquired, vapor degreasing equipment, there was a tank with a refrigerated belt around the top, lids, vents and the product was recycled from there and cleaned and put back in rather than dumped because the oil and grease and materials that came off all those had traction motors. The lids was open, the motor was put in, the lids was closed, it stayed there a while, the thing was removed. And like I say, there was vents, there was covers and the refrigerated belt kept the vapors in and these products weren't used outside of that.

Q. We know that, for example, the Department of Transportation didn't come into existence until what, the early 60s, I guess it is. What agencies prior to that time would, if any, State or Federal would have control over the usage of products or the contents of

products that might have been considered?

A. You mean would control the products that the railroad used?

Q. Yes. I mean would you deal with agencies up to that point?

A. I don't think anybody controls even now the products that the railroad uses that I'm aware of except the railroad itself. There may be certain illegal ---.

Q. What I'm driving at, were there any agencies such as OSHA?

A. We always had OSHA records, books, texts and these were referred to when questions came up and we adopted their limits on things. Prior to these government agencies, I'm not --- I don't know that we had any agency that supplied this information.

Q. How about the Federal FRA or how about trade groups such as the AAR, did they have any kind of chemical requirement?

A. The AAR couldn't control what the railroads did, but they did certain testings and made certain recommendations. Not in those areas --- not in the area of products as much as --- not in the area of products.

Q. I mean how did your department know, for

example, that a product containing carbon tetrachloride should no longer be used, how did that notice get to you?

A. There's a lot of ways, just it became public knowledge, for one thing. It was in papers. OSHA --- or it might have been before OSHA. We kept up on, texts, I'm trying to think of the name of some of them, I can't. We always kept, I think Sax was one company that published a book this thick that has all known toxicity in it and we referred to that. These things --- this grew slowly in our society, I mean and we grew with it. Society in general wasn't aware of toxicity. And as society became aware of it, we did too. We belonged always, in fact, the first chief chemist founded the American Society for Testing and Materials, which has headquarters in Philadelphia, it an international society and we always belonged to this. We always had their publications.

Q. I would agree that, you know, there are a lot of products ---?

A. If there were agencies like OSHA, prior to OSHA, I just don't remember what they are. That's something that slipped my mind.

Q. I will agree with you, there are a lot of products today that are not used that were used years

ago but not --- well, you know were considered to be fine?

A. Fifty (50) years ago your wife would have cleaned the spots off your tile with carbon tetrachloride. Today she can't get it if she wanted to.

Q. And as the changes occurred so did the policies of businesses as well?

A. We as a railroad progressed along with society in those areas, and to be specific about where we got the information I can't tell you. I don't remember all. But like I said, we had a library, we bought the books and Sax, S-A-X, is one --- I remember we always had the updated Sax and it listed the products with all the safety requirements, the symptoms, something like an OSHA publication today. But that isn't the only thing we used.

Q. And then later on there were, as the changes occurred, either the DOT or FRA or whatever?

A. We had all these agencies that published things and we kept the publications.

Q. And it was your function to make sure that the safety of the ---?

A. It was partly mine, yes. And the Safety Department, of course, and other areas and some areas.

We even had a Medical Department that sometimes advised us too.

Q. Would that be in a case of where an employee had become ill or injured or something of that nature?

A. Yes. We ran for the Medical Department tests on a lot of employees for anyone who worked around the foundry were tested for lead regularly and we did those tests, reported back to the Medical Department and they then followed-up with the individual. And like I say, it was sort of a back and forth situation where if they knew something they would advise us and vice versa.

Q. Would you be involved in any way --- would your department be involved in any way if there was an accident on the railroad which caused injuries to say, the general public, because of a spill of the chemical or to employees?

A. Yes.

Q. Would you be asked to analyze the product or what would your role be?

A. On occasion we supplied technical assistance in the case of a derailment or a spill of some sort. I'm talking about a transportation spill, well, any kind of spill. We spent a lot of money at times being on the site making sure the tests were run. Sometimes, I can just think of one occasion where we hired the

Professor of Chemistry at a University to have his graduate students run the testing under our supervision of a spill site until the site was cleaned up just to make sure there was no spread and no harm done.

Q. Do you know what site that was and when that was?

A. Do I what?

Q. Do you recall when that was and what site?

A. I recall the site, it was near Mattoon, Illinois. I'm trying to think of the name of --- Eastern Illinois University was the University. And I think the company spent 18 million dollars there making sure that no harm was done. And no harm was done, not a fish or minnow was killed.

Q. Any other spills that you recall in which your department was called in?

ATTORNEY ERMILIO:

Peter, do you recall if it was from Elkhart?

ATTORNEY RUVOLO:

I'm trying to find out if it was Elkhart.

BY ATTORNEY RUVOLO:

Q. Do you remember if it was from Elkhart?

A. There was one in Indiana because I met with

the Secretary of Health in Springfield, I don't remember the town in Indiana, Richmond. Somewhere there was a spill and a derailment and a spill of acetone in the field. Again, we monitored it, we drilled wells all over the place to monitor the spread of the material until nature could take care of it. Mostly that's all we could do because it was sandy soil. But anyway, we had people there from our department and did that work. There was another one at Midway, Pennsylvania, and there was a derailment somewhere right in town and our people spent time there. And again, to our knowledge, at these three cases that I know of there was no wells polluted, no animals hurt, no human problem that I know of. They hauled the stuff from Midway way out miles away and treated it at a plant. So that the railroad did what they could in these areas.

Q. What connection or relationship did your department have to the MSD or Material Safety Data Sheets that were issued by various manufacturers and/or OSHA, did you receive copies of those?

A. The machinist?

Q. No. Material Safety Data Sheets?

A. Yes.

Q. Did they go through your office?

A. Originally they didn't, I mean we wasn't the prime receiver of those, I'm not sure who was but we got copies as, let's say a matter of information.

Q. But if it was ---?

A. But it seemed to me somebody in the Transportation Department --- I don't know, I don't remember.

Q. But if it was a product being used by the railroad having been bought through the Purchasing Department, would you ---?

A. We would know that, yes.

Q. And you would know, therefore, what the contents of the products were, the chemical contents?

A. If it was a purchased product, yes.

Q. One of the products that we understand from Conrail that the Purchasing Department approved was called gear lube?

A. Gear lube?

Q. Yes.

ATTORNEY ERMILIO:

Are you referring to a current approved product or one that was approved at some point in the past?

ATTORNEY RUVOLO:

I'm referring to the data

sheets that you supplied us with for products available 1976 to the present.

ATTORNEY ERMILIO:

Okay.

A. Traction motor gear lubricant, is that what you're referring to?

BY ATTORNEY RUVOLO:

Q. Well, it is called oil gear lubricant, it was a heavy SAE and it was also SAE 90 EP?

A. That wasn't what I was --- that was for automotive use or non --- that wasn't used on railroad rolling stock. That might have been used in tractors, automotive equipment. That, of course, is the same thing you have in the rearend of your car. There was two gear lubricants used in locomotive.

Q. Do you recall which ones they were?

A. Well, it was an asphalt material, it was nothing more than tar. And there was another one that was a more sophisticated grease made up of soap and heavy lubricating oil.

Q. Do you recall a product called --- and it's very difficult to read, I'm not trying to play games with you, Open Gearlube Number 382, manufactured by the Spray Products Corporation?

A. I mean I know what an open gearlube is, but I

never even heard of the company that I can recall. The kind of a product for open gears is very sticky, usually asphalt-based material that has some lubricating heavy oil in it. And when you said spray, I can't picture the railroad using it, but anyway you could spray it on open exposed gears and it stayed on, it wouldn't wash off with water and it didn't melt off and run off in the sun. So it was basically asphalt with some oil in it, heavy oil in it.

Q. Well, according to the Material Safety Data Sheet information I have before me, it contained 24 percent asphalt, 16 percent propane?

A. Well, that's a propellant.

Q. And 55-1,1,1, trichloroethylene?

A. Well, again that was a propellant. But what the railroad would do with that, I mean you might buy it to lubricate the chain on your bicycle. But what the railroad would do with these aerosol cans of open gearlube, I don't know. I mean there could be an approved list for it for some --- it could be used in a printing shop or something for all I know. It isn't an item. It isn't a big item, I bet they didn't buy much of it.

Q. I'm referring to ---?

A. And that's sort of outlawed.

Q. Excuse me, just for the record the Bate Stamp Number CO18830 and 18831.

A. Can I ask a question off the record?

ATTORNEY RUVOLO:

Sure.

OFF RECORD DISCUSSION

BY ATTORNEY RUVOLO:

Q. Are you familiar with a product called Inhibisol?

A. Who makes it? It doesn't --- I don't have any good recollection of having heard that word. It could be a manufacturer's name for a more common product.

Q. Yes, no question it is that that is the ---.

A. Yes. I don't know that product.

Q. And according to this Material Safety Data Sheet, it was issued --- well, the product was manufactured by Hach, H-A-C-H, Company and it contained 1,1,1, trichloroethane.

A. Yes. That was one of the safest from a health hazard standpoint of the products, that 1,1,1, but I'm not familiar with that product.

Q. I believe the date on that was issued 25 November 23rd, 1984. So that would be, again, this would be ---?

A. Was there a purchase account reference for it? I mean did the railroad buy this product?

Q. Yes.

ATTORNEY RUVOLO:

Did I give you the bate stamp numbers?

ATTORNEY ERMILIO:

No.

ATTORNEY RUVOLO:

18774, 75 and 76.

A. I'm familiar with 1,1,1, trichloroethane but ---.

BY ATTORNEY RUVOLO:

Q. In what products, in what connection, how are you familiar with it?

A. It's my recollection as products were investigated for vapor degreasers, the maximum allowable concentration for eight hour exposure was always investigated with one of the agencies that had that information like OSHA and only those with --- when I was still working 1,1,1, trichloroethane had a maximum allowable concentration of 1000. And since then, OSHA, I think has brought it down to 250 or something like that. So that they've tightened up the use of it. But it would have been investigated for the

use in a vapor degreaser for cleaning electrical equipment.

Q. That's basically the nature of the product?

A. Well, 1,1,1, trichloroethane, it could be bought under that name, but I'm sure manufacturers put fancy names on it. I think I remember one called Chloroethane NU, and that was what the manufacturer called 1,1,1. But this particular one, I don't remember. And they were just straight chlorinated solvent with some type of an inhibitor in it.

Q. Another one is a product called Grapho 231-4 which is some sort of a graphite?

A. Grapho?

Q. Yes. It was produced by Graphoid Colloids (phonetic) Corporation?

A. I remember Grapho as a graphite --- I'm trying to think of why it was considered. I think for lubrication of trailer train hitches, I think. And grapho, of course, had several products depending on the particle size of the graphite and the amount of graphite and I'm assuming this was in an aerosol.

Q. Well, the catalyst was Cobalt and the solvent in it was Ilene. And the Ilene was 75 percent, Cobalt was .006 and Graphite was 15 percent.

A. Well, I'll say that the name of Grapho I

remember, not a specific product, but I remember there was a graphite lubricant for some things and it seemed to me it was for trailer train stanchions that hold the trailers on.

ATTORNEY RUVOLO:

The reference on that is CO-18777 and 778.

BY ATTORNEY RUVOLO:

Q. Here's a product in reference 18779, a perfectly normal product called regular mineral spirits?

A. Stoddard solvent.

Q. Right. I just wanted to ask you that. And why is stoddard solvent considered a hazardous component is it because of the gas?

A. Any --- for the same reason that gasoline is, it's flammable, it can defat your skin if you soak in it too much. It replaces oxygen if you breathe too many vapors. And you should have oxygen instead of stoddard solvent vapors, I mean I'd say it was the same as gasoline in the sense that it's a mineral, it's a petroleum product that just isn't great on the skin. Not that I ever wash my hands in it many, many times to get grease off, like you might gasoline.

Q. According to the report issued by Unikile

(phonetic) corporation from Los Angeles, the product was often used by Chem Track whom I'm sure you've heard of. But this material --- reports have associated, repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Sometimes referred to as a painter's syndrome, does that ring a bell with you?

A. Any solvent pretty near has that, the amount of exposure is probably pretty high required to cause any trouble.

Q. Did I give you the page reference?

ATTORNEY ERMILIO:

18779?

ATTORNEY RUVOLO:

Yes.

BY ATTORNEY RUVOLO:

Q. One of the products that was referred to on CO-14384 is journal grease, and it says, DNO, discontinued use. Do you recall that product and when it was discontinued?

A. There was many reasons, not specifically, no. There was many reasons why, if that's a copy of the catalogue, that we would discontinue use. Sometimes because a better product comes along, sometimes because a specific product was found wanting. And it was

marked in the catalogue to discontinue use. Why that grease was discontinued I don't know. They changed --- the ARR generally recommended journal box greases and there was specifications for it, ARR specifications and sometimes they found out that the grease was too thin, too light, not enough soap, not a heavy enough body and leaked out, and they'd go heavier. But some bearings maybe was around and still used the lighter material, so they would mark do not purchase and we'd use up whatever we had on stock and on old bearing. So generally that was for reasons other than any hazard.

Q. Do you know of a product called lubricant hot box cooling sticks?

A. Lubricant hot box cooling sticks, yes, I mean that's an old, old one but I'm trying to think what it was. They even made it in Altoona at one time. The old fashioned bronze bearings, not roller bearings would get hot or low on oil if they carried some cakes or heavy soap. I forget what was in it, they carried it with them and they'd stick that in the hot box and they could limp in with it. It would melt and lubricate that box hopefully enough to get into a yard somewhere where the bearing could be changed out without doing any further damage. I don't know why I can't remember what it was. It was probably a soap and

a heavy oil, something like that. It may even have been an asphalt.

ATTORNEY ERMILIO:

Peter, is that also off of 14384?

ATTORNEY RUVOLO:

It's a couple pages long on this one, but it's 14385, 6 and 7.

ATTORNEY ERMILIO:

Thanks.

BY ATTORNEY RUVOLO:

Q. The product that we were talking about before was lubricant gear opened 16 ounce cans, that's the one we talked about on the Material Safety Data Sheet. Lubricant silicon spray on 206 and Krylon 1325, any idea what that product is?

A. I remember one time they used a silicon, the only use I can remember is they used it on passenger car windows, you know, the aluminum frame wouldn't slide up and down on some of the old cars that still had them and they'd spray that silicon lubricant on the aluminum to lubricate it. And again, probably they used whatever the current market propellant was at that time. But if I recall they were in aerosol cans.

Q. What would Krylon be, 1325?

A. Probably Tryon, was that the name of the product or is that what they claimed was in it?

Q. That's what they claimed was in it.

A. That would probably be trichloro --- something or other as a propellant, which was in every aerosol product in the country at that time.

Q. Trichloro ---?

A. Whatever.

Q. I can't pronounce it?

A. I mean they used propane, they used chlorinated solvents because part of the reason they don't like propane, it's flammable and somebody can spray it and start a fire with their hair spray. But if you use trichloride in your hairspray, which they did, it was safe. So any propellant that was on the railroad, any aerosol had exactly the same thing in it what was current on the market for hairspray and shaving cream and toothpaste.

Q. Would there be any chemical change that would occur or distinction between oil journal box new or oil journal box reclaimed?

A. Would there be any chemical change? The only --- the used journal oil would have the dirt taken out of it by distillation and filtration. And the dirt that accumulated along the ride or whether they got in

the journal boxes and dirtied the oil and it got in the pads, and the pads then were squeezed out and the oil reclaimed, we'd just take the dirt out, that's all.

Q. But there would be no chemicals added to it?

A. No.

Q. And the distinction between ---?

A. Unlike diesel oil.

Q. And the distinction between a heavy-duty oil and oil heavy-duty detergent with the viscosity of 113, would that ---?

A. Well, heavy-duty detergent oil, and again, I don't know which one you're talking about but generally a heavy-duty detergent oil is what you use in your car. It has products which are detergents that clean and suspend the dirt and the wear on products and so forth in an engine so that it doesn't sludge out on the parts. And when you drain the used oil out, you drain the stuff out with it, that's the detergent. In other words, this keeps the dirt suspended and the oil --- straight mineral oils, you've got sludges all over the engine and finally things quit because they were all sludged up. The more detergent put in, the more, quote, heavy-duty it becomes, which is more of a marketing name than anything. And the detergency level progressed as time went on.

Q. Did you ever do any testing on hydraulic oil that contained rust and oxidizer inhibitors?

A. Uh-huh (yes).

Q. And can you tell us what they contained?

A. Hydraulic oils basically are straight mineral oils with nothing in them. In other words, they don't have detergents like a motor oil to suspend dirt because dirt is not being generated in a hydraulic system. But you can get water in the oil and you can get rust on the cylinder surfaces and so forth. And due to the heat of the pressures involved, you can degenerate the oil so that it oxidizes the molecules combined with oxygen and you get sticky messes of stick up valves and things like that. So they put additives in which I can't remember what they are. I don't remember. But anyway, there are additives put in to inhibit rust, suspend water so it doesn't settle out and to inhibit the formation of these gooey things due to oxygen forming or reacting in the molecule. For some reason, I can't remember what they are, what the additives are. Probably you can eat them, they're probably sulfonated materials.

Q. From your experience, just to tie it up a little neatly or something or other, were these same products used over many years by the railroad? Were

they used prior to 1976?

A. No. The kinds of things were used but progress was made. The early --- well, just as an example, early engine oils were just straight mineral oils, the oil that was refined from crude by distillation. Then they found, as I said a while ago, sludges formed dirt settled out on the valves and everywhere. So they started to put detergents in. Temperatures and pressures and compression ratios and everything went up as time went on. And so additives --- the amount of additives were increased to handle these extra loads. The amount of oxidation inhibitors were increased to handle the changes in the product due to the higher temperatures. The same thing happened in your automotive oil has happened in the oils that the railroad used, even though they were different, the same progress. So that today the oil has three or four or five times as much additives as the earlier additives, and the additives have been improved, different types have been developed.

Q. How about paints, what would be, if you could tell us, the chemical contents of say, an enamel as contrasted with a gloss or semigloss?

A. Well, enamels were basic paints that were old-fashioned original first step paint that the

railroad used for years and years and years. It was nothing more than simple freight car red, for example, or black was nothing more than iron oxide and linseed oil and turpentine, that was the beginning. And then as they wanted higher gloss paints and they wanted more tough or harder paints resins were added. Almost any kind of resin has been used at one time or another, phenolic resins, alkyd resins. Most of the ones you use now are alkyd resins and the solvents have changed some from turpentine through stoddard solvent. Our freight car paint, we still use stoddard solvent as a solvent for that. Some of the other paints have more solvents with higher solvency. Possibly Toluene, T-O-L-U-E-N-E, of a small amount. So that the solvents had to become more --- have higher solvency, in order to dissolve the resins and still use somewhat the same pigments as always. So paints, paints is oil solvent and pigment, enamels is oil solvent, resin and of pigment. And that's really the only difference. The more resin you have, the harder and the higher gloss it is. Then there's, of course, a variety of resins from the polyurethanes you hear about that you probably put on your own wood floors.

Q. Were there any changes in the composition of paints that were brought about because of an OSHA or a

EPA or DOT regulation?

A. Well, at one time paint manufacturing, before it was known, could have almost any solvent in it. You could have benzene, toluene, xylene, all the ranges of distilled petroleum solvents. But, yes, I mean, as it became known, you wouldn't put benzene anymore, you wouldn't put xylene maybe or toluene in and xylene and so forth. And as time went on, these became restricted solvents.

Q. A lot of these products that have become restricted are still manufactured though; are they not?

A. If they are, I'm not aware of it.

Q. Maybe for a specialized use?

A. Well, I suppose it would be probable that if you had a kind of a use where a product was put in a tight booth and sprayed by people external from the booth and vented and there was something that didn't cause smog. I mean, you can't even exhaust these things into the air anymore even if they're harmless to people relatively, I mean, nothing is harmless to people, you can't even stand too much water. But if it was harmless to people it could cause in certain areas smog. So you can't even vent them into the atmosphere. So, fortunately I'm not involved with that anymore because it's got tougher and tougher to even

paint an automobile. I'm sure they have to condense those vapors and use them over nowadays instead of let them go into the atmosphere when the paint dries where there's a large volume.

Q. Some of the paints were used in spray cans containing again, I mentioned to you before, Krylon. Krylon comes in different numbers, there was Krylon 1401?

A. Trylon?

Q. K-R-Y-L-O-N?

A. Well, that's the name of a company that packages paints and aerosol cans and your K-Marts and those kind of stores were full of those. Now, there's companies that are cheaper than Krylon, but Krylon was a big packager.

Q. Do you know what the contents of the spray was?

A. They were the same as the other aerosols we talked about. At one time they were chlorinated solvents, I'm sure. They went through propane and now they probably use carbon dioxide or some other propellant. In other words, they used whatever was ---

Q. Was okay at the time?

A. --- was fashionable at the time. And Krylon's would have all gone through this range of

things.

ATTORNEY RUVOLO:

That's Co-14422.

BY ATTORNEY RUVOLO:

Q. Is there a difference between a spray can and a pressure can?

A. Not that I know of. They're all pressurized in some fashion.

Q. Would they be pressurized with a different chemical?

A. Not because of the nomenclature, they'd be pressurized due to other pressures, differently. In other words, that has no --- that doesn't differentiate anything.

Q. Well, for example, one is a pressure can that involves enamel paint, area pressure can, 14424 and the other is a fuel priming pressure can. Would there be a distinction there?

A. Fuel priming. All I can think of if it's what I think of fuel priming it is something to get a diesel engine that's been --- probably small diesels like they'd used it on MW equipment or something. To get it started in cold weather you might spray that or a gasoline engine as far as that's concerned. You can buy the same sort of thing in an automotive store or

K-mart for cold weather starting. You take the spark plug out and spray it in and some of them, I guess, if my memory is right, they're nothing but ether. But the packaging is the same, it's just the product that's different.

Q. Same would be true for a product such as gas dry or dry gas?

A. Dry gas, of course, is different. Dry gas you pour in a tank and it's an alcohol that absorbs the water in your tank, and theoretically suspends it so that you burn it. And this is like a starting, you can buy a starting fluid and it, like I say, mostly is ether and you spray it in your carburetor and that. And it gives you that first boom to get the thing started and they probably use it in Alaska more than they do here. It's nothing but something that burns very readily and more so than gasoline when it's cold.

Q. Are you familiar with a product called --- it's a cleaner, an electrical cleaner or solvent E63?

A. E63, I don't know. I don't remember it by that. It could be --- well, there are some companies that make something like WD-40, are you familiar with WD-40?

Q. Yes.

A. That you buy and there's companies, I think

that's what that is. It displaces water, it has alcohol in it and maybe some wetting agents and things. It displaces water. You can actually spray it on wet electrical equipment and then use it almost immediately. It's electrical cleaner in the sense that it displaces water. That E63 somewhere in the back of my mind makes me think that's what it is but I'm not sure.

ATTORNEY RUVOLO:

Can I have this marked for identification?

A. Was that one of my letters?

BY ATTORNEY RUVOLO:

Q. Yes.

A. What do I say about it?

Q. Well, why don't you read it and then you tell us.

ATTORNEY ERMILIO:

Do you have a copy or can you identify it?

ATTORNEY RUVOLO:

I only have one. I hope to have some shipped to me because these aren't even that clear.

A. In other words, it isn't what I thought it

might be.

ATTORNEY ERMILIO:

Can you give us a date or some identification?

ATTORNEY RUVOLO:

July 5th, '78, it's a memo from Mr. Reed to J.R. Tyler.

ATTORNEY ERMILIO:

July 5, '78, okay.

A. I thought I knew what it was, I just couldn't remember.

BY ATTORNEY RUVOLO:

Q. Well, could you tell us for the record what is contained in there?

A. Well, E-63 is 1,1,1, trichloroethane with a carbon dioxide in an aerosol type can. And the reason they were bought in aerosol cans is you'd have a hell of a time getting above the maximum allowable concentration in an eight hour period for a workman from an aerosol can, if you see what I mean. It isn't like spraying it with the bulk spray equipment.

Q. The date on this memo is 1978, July 5th, 1978. And I take it you received the request because of an allergy problem to a maintenance electrician?

A. For this?

Q. Yes.
A. Yes, it says that it's from the --- I wouldn't remember this. I have no recollection of this letter, but it says it's for the doctors in the case of a rash on a maintenance worker.
Q. And you say the product contained methyl chloroform as a solvent which contains 1,1,1, trichloroethane?
A. That's another --- methyl chloroform is a common name for the chemical name 1,1,1, trichloroethane.
Q. And do you recall when this product began being used by the railroad?
A. No, I don't. I don't even remember it exactly. I mean I don't remember buying it in an aerosol can.
Q. But you also say in your memo the methyl chloroform has replaced carbon tetrachloride and other halogenated hydrocarbons in the cleaning industry?
A. Uh-huh (yes). I'm speaking there of other industries. At one time, carbon tetrachloride was used to clean grease clothing. I mean, the dry cleaning industry is what I was referring to, if I can now look at the letter and assume that's what I was referring to.

Q. I'm trying to, if you could tell us when methyl chloroform came in as a substitute for carbon tet, if you can recall?

A. Well, when I was on the railroad it didn't. Like I said earlier, I have no recollection of carbon tet being used on the railroad. I do know that it was used other places, though, for spot removers in the household and the dry cleaning industry. And those industries had quit using it along with everybody else. But 1,1,1, trichloroethane, I'm guessing that my recollection of this product being offered as an electrical cleaner is probably in the late 50s, let's say. I was still in Altoona as a chief chemist when I first remember the product being offered.

Q. Do you recall who J.R. Tyler was?

A. J.R. Tyler?

Q. Tyler to whom you addressed the memo?

A. No.

Q. And copies went to E.T. Harley; do you recall?

A. Yes. Well, Harley was my boss.

Q. And Schucker?

A. Schucker worked for me. He's the guy who actually did the analysis or did some of the work. Manganaro was a safety man and J.J. Butler was the

chief mechanical officer, if I remember, I'd say --- what's the date, yes. And Mike Mitchell, I don't remember who he was. But anyway, Harley was my boss and Schucker worked for me. I would assume J.R. Tyler was either a medical person in Indiana or more likely --- well, probably the diesel terminal supervisor.

Q. Would there be any toxicity in a product identified as chloride granular calcium?

A. Chloride granular calcium. That's what you put on the highway that dissolves ice, that's probably a de-icer. And the toxicity, I guess, if you ate enough of it, it might give you a stomachache. But that's calcium chloride, granular calcium chloride that the Highway Department uses as being a little less corrosive than plain salt.

Q. How about cement PVC pipe?

A. The pipe itself?

Q. Well, Industrial Polychemical Service, can you identify who that might be?

A. You say it's pipe?

Q. Yes, cement PVC pipe?

A. Well, that's what the water in my house runs through.

Q. Is there any coating on that pipe?

A. Not that I know of. There's an ASDM

specification for all that pipe. And like I say, as far as anybody knows, you can drink the water that goes through it.

Q. Is there any particular distinction to a class being attached to a cleaner such as an alkaline cleaner Class 7A?

A. Yes. The cleaners were categorized and given, I don't know why or when it started, or who started it, I don't know if we did or not. But cleaners were given classes. Rather than tell the foreman a reference number which was eight numbers maybe, you could tell him he was supposed to use a Class 7 in the instructions for cleaning a floor or a Class 3 for something. It was merely a name of a category. And the cleaners were approved as being similar under the same class.

Q. Is there a distinction between a compound and asphaltum compound, car cement asbestos medium as opposed to car cement asbestos heavy?

A. No. It's a more viscous product, medium. There was three classes, light, medium and heavy or something like that. These were sprayed on roofs and it had to do with the consistency based on the consistency of the asphalt that's involved. And they were nothing but asphalt and the filler.

ATTORNEY RUVOLO:

Again, this is a poor copy but could you mark that as an exhibit please?

EXHIBIT MARKED

BY ATTORNEY RUVOLO:

Q. Would you take a look at Exhibit Number Five, Mr. Reed, and tell us the circumstances of that memorandum?

ATTORNEY ERMILIO:

The date on that, Peter?

ATTORNEY RUVOLO:

July 25th, 1979, to T.E. Hesley, H-E-S-L-E-Y.

A. That's self-explanatory.

BY ATTORNEY RUVOLO:

Q. For the record, would you tell us what the product was it's, identification and what it contained?

A. Well, it's a letter dated July 25th, 1979, that says that Polychem USD-401 consists of 70 percent mineral spirits, 25 percent perchloroethylene and 5 percent methylene chloride. And it states that they're referred to as safety solvents because the presence of the chlorinated solvent inhibits the flammability of the mineral spirits. But they're not to be used or

their use is restricted to 16 ounce aerosol cans and vapor degreasers because of the presence of the chlorinated solvent.

Q. Is there a chemical symbol for perchloroethylene, is it known by any other letters such as PCT or something like that?

A. It could be PCE, I don't know. Some of those things have come on the horizon since I retired.

Q. How about methylene chloride?

A. That's the 1,1,1; isn't it? No, methylene chloride, I see. If you want another name for it, I don't know of another name but there are, I'm sure.

Q. And finally, if you'd tell us the distinction between what is, quote, chemical cleaning usage and it refers to Class 1A, Class 7A and Class 7B which I presume was used on locomotives and other cars. Could you tell us the difference between the classes?

A. I don't remember. I couldn't tell you what any of them are now. There was about nine classes if my memory is right. I don't remember.

Q. And why would the phrase chemical cleaning agents be used?

A. Why would ---?

Q. The phrase chemical cleaning agents?

A. Trace?

Q. Pardon?

A. I still didn't catch ---.

Q. Why would these --- they used the phrase chemical cleaning agents?

A. Why was that phrase used?

Q. Yes, I mean, does it have a special connotation?

A. I don't think so. There are mechanical ways to clean, but the chemical cleaning agents included all the cleaners whether they're dry powders or slurs or liquids. They're all chemical cleaning agents but I don't know why we added the chemical even to it, they're just cleaning agents. I guess you could, they cleaned with walnut shells, blasting with walnut shells and things like that which, I guess, you wouldn't call chemical, but I don't know why that was.

ATTORNEY RUVOLO:

Let's have this marked.

BY ATTORNEY RUVOLO:

Q. I think you stated before that Mr. Schucker, D.L. Schucker worked for you?

A. Yes, he was a chemist in the laboratory and his duty was strictly cleaners, analysis, preparing instruction sheets, preparing approve lists to distribute, just keeping things in the right class. In

other words, he did that work for me.

Q. And when there's a carbon copy with an attachment D.F., would that be you, Mr. Reed?

A. What was that?

Q. D.F.

A. I suppose that's the typist, D.F., I don't know.

Q. And this memo went from Mr. Schucker to Mr. Manganaro?

A. Manganaro was a safety.

ATTORNEY ERMILIO:

What is the date of this memo?

ATTORNEY RUVOLO:

July 30th, 1979, and it's two pages. There's an attachment to it.

A. I was still there.

BY ATTORNEY RUVOLO:

Q. If you notice on page two, the last three columns are identified as Class 1A, 7A, 7B, that's why I asked if there was any distinction?

A. I can't remember what those are, but the reference number would tell me more than the class. You don't have the catalogue with those reference numbers in it.

Q. The ones on top of the class number?

A. Yes.
Q. When you say catalogue, what catalogue are you referring to?
A. The Purchasing Department catalogue of products that can be bought has accountS and reference number. Forty-seven (47) account included these kinds of things and then a specific number for the product under that reference. If you had a catalogue, it should --- it seems to me that 7A and 7B were chemical caustic materials, by caustic I don't mean lye, I mean carbonate, phosphate and so forth, 142, 155, 142, 163.
Q. That's the one I questioned you about before.
A. It probably just says class.
Q. 142 155 is a liquid water based alkaline cleaner Class 7A.
A. And is there a 7B after it, 163, 142, 163?
Q. No, that's the one I didn't find.
A. If 7A is a liquid caustic, 7B is probably a dry powder and they were for basically the same use, but two different natures. And those cleaners are, like I said, carbonates, phosphates, heavy duty soaps, wetting agents, no solvents. Sometimes these things had a little bit of solvent like mineral spirits in them just to wet it down so the powder wouldn't

distribute itself when somebody dumped a batch of it. So you didn't fill the air up with a cloud of something to make the guy sneeze.

Q. Just making sure I'm correct, the catalogue number for Class 1A was 47 138 351?

A. Uh-huh (yes).

Q. And then Class B was 47 142 163; correct?

A. Uh-huh (yes).

Q. That doesn't appear on the list that I have. For the record, the Class 7A number 47 142 155 does appear on CO-14408. I have a final question, if you would. I asked you before whether there were --- other than replacements, but were most of these products used during your tenure at --- strike that, that's the wrong question.

Were these same type of products basically used during your time with Penn Central as well as your time with Conrail?

ATTORNEY ERMILIO:

Objection, that's very very vague.

ATTORNEY CINNINGHAM:

Likewise, I object.

BY ATTORNEY RUVOLO:

Q. When Conrail took over in 1976, I believe it

was, was there any big change made in the nature or type of products that had been used?

ATTORNEY ERMILIO:

Objection for the same reason. Unless you can define would you mean by big change?

ATTORNEY RUVOLO:

A major change.

ATTORNEY ERMILIO:

Same objection, that's vague.

BY ATTORNEY RUVOLO:

Q. In other words --- let's go back. Were the same cleansing agents, chemical cleansing agents used in the years prior to 1979, and if so, how far back?

A. I don't know. In other words, with some parts of the railroad --- the New York Central part of the railroad, I have no idea what they used. After Penn Central was formed and when Conrail was --- well, the big change I think was made due to the merger of Penn Central and New York Central. After that most of the products used were PRR products. And again, I'm using the word most and the reason for this was twofold. First, the Purchasing Department moved to Philadelphia and was basically using Philadelphia Purchasing Department facilities. And personnel, even

though New York Central personnel came in, they sort of came in as the outsiders which wasn't true all over the railroad but in the Purchasing Department. And secondly, the New York Central laboratory had a different function entirely. They just didn't approve products, they were known as a Research Department. That's what they wanted to be known as, I should say, a Research Department. And the people like the Vice President of Research fought against doing any testing of products. He felt that was beneath and unnecessary. But the Purchasing Department wanted somebody to have a little control over what was bought. And so they sort of forced his hand in that we continued to do a great deal of what the Pennsylvania Railroad Laboratory had been doing and that was approving products. That Vice President left in 1970 when I got his job, and we continued to approve products to a great extent although there were people in the railroad that felt that that was not as meaningful work as could be done by a researcher or technical services lab. So as I finished my tenure, we got involved in lots of other things and sometimes let testing and approving sort of slide, that sort of took a backseat to some other work. But to answer the question, the products that were used even today or at

least in the early days of Conrail and during Penn Central to a great extent were the same products, the same kinds of products. Sure, new things came along, new uses came up and new products had to be found, but the kind of thing you did was pretty much the same and it was basically because of the Purchasing Department and the survival of our Department.

ATTORNEY RUVOLO:

I don't have anymore questions. Can we take a five minute break?

SHORT BREAK TAKEN

EXAMINATION

BY ATTORNEY CUNNINGHAM:

Q. Mr. Reed, I'm Pierce Cunningham and I represent one of your former employers, Penn Central Corporation. And I have a few questions as follow-up for you. One of the areas is carbon tetrachloride and I wanted to have you give me some information about some of the characteristics of carbon tetrachloride and correct me if I'm wrong. Carbon tetrachloride is not a flammable substance; is that right?

A. It's inflammable, it won't burn.

Q. And it has a distinctive odor; does it?

A. Yes.

Q. And how would you describe that, if it can be described?

A. I don't know if it can be described, pungent, sweet and pungent, ethereal.

Q. Does that odor if the volume is, let's say 10,000 to 20,000 gallons, linger for some time would you say?

A. For some time, but it wouldn't linger very long. It wouldn't linger forever, that's for sure. It will evaporate, bacteria will eat it, assuming it spills on the ground, bacteria will eat it, chemical reactions will take place depending on the soil.

Q. Assume it's not in the soil but had been in a tank car?

A. In a tank car. Well, if you had it in a tank car, it would probably stay there a long time. I'm assuming it isn't a leaking tank car, it would probably stay there forever.

Q. With respect to your recollection about placarding of tank cars, do you have any knowledge of that at all, when a tank car was placarded?

A. I know there was classes and I forget what they are, but cars were placarded depending on flammability and toxicity and corrosiveness, corrosive materials. I don't know what else, I don't remember

what the placarded were, but I know the flammability and corrosiveness and explosion, explosiveness.

Q. Between 1965 and 1970, do you know whether or not carbon tetrachloride, if it was being transported in a tank car would have been placarded?

A. Well, between 1965 and 1970, I would assume it would be placarded, yes.

Q. With respect to carbon tetrachloride spills, did any carbon tetrachloride spills come to your attention while you were an employee of Penn Central?

A. Not anywhere during the time that I ---.

Q. Do you have a general knowledge between 1965 and 1970, Mr. Reed, as to the reporting procedures for a spill of carbon tetrachloride, let's take the procedures and policies that existed at Penn Central.

A. Well, that certainly is out of my province because I know there was reporting procedures, but I don't know --- I don't remember what they were. I probably knew at the time. We would only get called in to it if some regional or some local railroad authority needed help of a technical nature. It could be that a car would be leaking or there was a derailment and the car was punctured or something. And they might if they needed --- I mean if it couldn't be contained and caused a problem then we might get called. I mentioned

earlier it wasn't carbon tetrachloride in the three cases, but we were called on because of a hazardous spill where we either did the technical work to do the testing to see that there was not a problem, that it didn't cause a community problem. Or we contracted or worked with somebody else to do the work for us under our supervision. But I've not had any carbon tetrachloride or chlorinated solvent. I didn't have any chlorinated solvents of the like during my time. They were other things.

Q. So you are saying, I think, that there was some reporting procedure, there would have been some paper trail of an incident such as I've described, but you're not familiar with exactly what it was?

A. My understanding of a placarded car that was in trouble had to be reported. There was forms for it and people responsible for doing that.

Q. Just exactly the details you're not sure of; is that correct?

A. Like I say, it wasn't part of anything I had to do or even be involved with, I just know that that was done.

Q. Mr. Reed, we have heard a number of employees who worked for both Penn Central and Conrail beginning in the late 60s on through the mid 70s, I believe and

through until the 80s who testified that while they were at Elkhart, Indiana, the journal boxes would be cleaned at the car shop there. And that certain cleaners were used to clean those journal boxes. During the time that you were the chief chemist for Penn Central and later for Conrail, was there anything from a chemical standpoint that would have been contained in those cleaners so as to have been hazardous?

A. The cleaning of journal boxes wouldn't be something that would be done everywhere. And again, whether it was done at Elkhart or not, I can't say. Most yards did not clean journal boxes, they did other things, they classified cars. A car that couldn't be moved might be shunted off to a small repair facility and repaired. But cleaning was not a general thing that was done at an interchange at a yard.

Q. Well, we've heard testimony that ---?

A. If they did clean there or anywhere else, there was no cleaner specified as a journal box cleaner.

Q. Okay.

A. In other words, we did not have something that said, this is a journal box cleaner.

Q. Let's assume you used the products that were

on the approved list for Penn Central, is there anything in any of those cleaners that would have caused any problems to the environment that you're aware of?

A. If they used an electrical cleaner that was designed for tanks that's pointed out in some of these letters, they would have been --- first, they'd have difficulty getting it, but I suppose it could have been gotten sporadically, but probably not on a continuous basis. And they would have been used without authorization and I would assume the foreman wouldn't allow it to be done.

Q. Let me ask you this again. If the approved cleaners were used to cleaned journal boxes, would there have been any problem?

A. I mean I have to --- there was no approved cleaner for cleaning journal boxes, that's first. So they would have to use a cleaner that was designed for, let's say cleaning the floors or cleaning trucks, more likely, it would be a truck cleaner. And they would spray that on probably with steam or they would just spray it on with hot water and rinse it.

Q. Let's assume they did that ---?

A. And those were the class of cleaners that were made up of caustic material. By caustic, again, I

don't mean lye but they were alkaline materials. They were carbonates, phosphates, wetting agents, soaps. And they would not be harmful to the environment or to the person except in large amounts. And the main problem might be that they carried oil along with them that was cleaned out, that was the dirt they cleaned out. So, I mean, I don't think there was anything --- the only way they could get in trouble was to use something that was absolutely not approved for the use or for even close use.

Q. There would have been, to your knowledge, if the approved products were used for cleaning, no carbon tetrachloride; is that correct?

A. No carbon tetrachloride purchased by the railroad. I don't think you can find the account and reference number. They couldn't even buy it on the open market during that period, I don't think.

Q. And what about chlorinated solvents, there wouldn't have been that either?

A. There were other chlorinated solvents that were bought for a special use. And if they misused it, by that I mean used it when they shouldn't have been, you could have chlorinated solvents either in the environment or maybe some problem with that, it could be a health hazard. But that would mean completely

unauthorized use of a product.

Q. So that to your knowledge, none of that activity occurred that would have been authorized; is that right?

A. Not authorized, no. I don't know. I don't know of cases where it was done but I'm human enough to know that anything could have been done.

Q. But if the standard procedures and practices were followed, the materials ---

A. Were available to them.

Q. --- that were available would not have caused any problems to the environment; is that your testimony?

A. Well, no. They would be a kind of thing that would be a very minimal chance of causing problems. As I said before, too much of anything, too much of that thing going into a stream wouldn't be good, you wash your hands in it, it wouldn't be good. So that kind of problem would exist but this was --- this is far-out to think that there was a problem.

Q. Now, with respect to --- we've heard some other testimony that the car shop slab which was generally concrete at Elkhart would be cleaned off, various testimony would say between generally once a week, and the material would then be hosed off. Do you

know what kind of cleaner would have been used to clean that slab off?

A. That would have been our caustic material. It would have been floor cleaners or truck cleaners, any of those heavy-duty cleaners were carbonates, phosphates, heavy-duty soaps, wetting agents, dry powders usually mixed with water.

Q. And was any of that --- did any of those cleaners contain chlorinated solvents to your knowledge?

A. Well, I don't know of any cleaner --- no cleaner on the approved list contained chlorinated solvents. There were chlorinated solvent cleaners for specific uses as one of these letters points out, to be used in tanks, to be used in small amounts in aerosol cans.

ATTORNEY CUNNINGHAM:

That's all the questions I have. Thank you.

EXAMINATION

BY ATTORNEY ERMILIO:

Q. Mr. Reed, my name is Jim Ermilio, I represent Conrail. I'm showing you Exhibit Number, Defendant's Exhibit Number One which is a memorandum dated January 20th, 1975. If you can read through that, it will only

take a minute.

As you can see from the second page, this is a memo from J.M. McGuigan, do you remember Mr. McGuigan?

A. He was our boss, chief mechanical officer and we came under him. And we wrote letters even though Noonan wrote this under my direction, it was assigned --- at that time it was assigned by our boss in Philadelphia rather than us assigning it locally. And this 10-1, shows where it came from.

Q. Let me step back a minute, you said Noonan wrote this?

A. Yes, Robert Noonan.

Q. How do you ---?

A. I know because his initials are here, R.T.N.

Q. And you were involved in this as well?

A. Well, you notice I get a copy because he was working for me and did this under direction of the department. And, of course, the last people on here was me and then my boss, Harley, and then Harley worked for McGuigan.

Q. And I'm sorry, I may have interrupted, you were discussing the 10-1 notation?

A. Well, I'm trying to think, ten was Harley's number. Well, anyway, there was a code number there so

you could trace this back, because since it was assigned by McGuigan, theoretically you'd never know who really was responsible for that. And this was for a short period of time after the person who actually wrote --- or before the person actually wrote the letter you put this code. And if I remember, ten was Mechanical Engineering Department which Harley was in charge of and one was our department under him, but that could be wrong. But anyway, that 10-1 is a code.

Q. Do you know why McGuigan signed this rather than Mr. Noonan or rather than yourself?

A. Well, that's the way it was to be. McGuigan, at that time, wanted everything that went out on to the system --- see, we're telling all the superintendents and everything what to do, and they work for him, not for us. And the way he wanted it done was to have his signature, different chief mechanical officers did it differently. This letter here, I think I signed and it like depended on the times.

Q. This one is dated January 20th, 1975.

A. What's that?

Q. The date at the top says January 20th, 1975?

A. Yes.

Q. Do you remember this memo specifically?

A. Yes, I remember the occasion. If you ask me

what was in this letter, I'd just have to be very general. If you'd ask who it was sent to, I couldn't even remember that.

Q. What do you mean by you remember the occasion, can you tell me what you mean?

A. I remember the occasion when we decided along with feelings of what the New York Central had done and so forth, and OSHA requirements that were coming out and all the things that were coming out, that we had to give up a little bit of fire safety for another kind of safety, for health hazards. So we decided that this was the move to make. We prepared the letter, if McGuigan wouldn't have gone along with us, he wouldn't have signed it. He had the last say on what could be quite a disruption when it comes to the operation of the electrical cleaning.

Q. Who are the gentlemen at the top of the memo?

A. Well, it says, if you notice, this written thing here, this written thing tells you.

Q. On page two?

A. On page two it says notice this letter has been retyped to add M.J.C. and shop managers at the head of the letter instead of receiving a copy. We probably wrote this to purchasing maybe originally, and then put copies to all of these people down here.

There probably was a string of copies but he didn't want it that way. He wanted it to be more authoritative, let's say. And so he had it rewritten, the body of the letter, I bet, didn't have a letter difference, but he reworded it so that the shop manager, Fadale at that time. Fadale was probably --- well, he was either in charge of Collinwood backshops or maybe Altoona Works, I forget when they came to Altoona. So these people were the people that had to control it.

Q. Do you remember if any of the people at the head of the memo on page one were responsible for the Elkhart yard?

A. No, I don't know. I have no idea. Well, I'm sure they did because he had every --- this covered the system. These people had control jointly over the whole system, and I don't know which one of these might have been in control of the area that Elkhart was under. But when these things were done this way, you included all the shop managers or all the regional superintendents so that the whole railroad was covered.

Q. So you're sure that one of them, although you can't identify which one of them, was responsible for Elkhart?

A. I don't know who was at Elkhart then, I

couldn't tell you where any of these people were at that time because they moved around. Korn was at Pittsburgh, I'm almost positive. But Boughton was, I'm pretty sure, at Collinwood shop and maybe Fadale, too.

Q. In the second paragraph on page one, second paragraph of the letter or the memorandum, it refers to discontinuing the use of cleaners containing chloronated solvents.

A. Uh-huh (yes).

Q. It says effective immediately, I'm reading a quote from the second paragraph, the second line, effective immediately the general use of cleaners containing chlorinated solvents is discontinued. Does that refresh your recollection about the use of chlorinated solvents prior to the date of this memo?

A. Prior to that there was --- well, these two ---.

Q. In 1975, I'm sorry.

A. These two classifications covered what was called safety solvents. And they were made up of like one of these letters here that is so much mineral spirits and ---.

Q. Can you identify which exhibit you're referring to? I know you're looking at other exhibits there, which one are you talking about?

A. Here it is. In other words, here's an analysis of a typical thing.

Q. Now, what's the date of that memo?

A. This is July 25th, 1979, it follows. But this was approving a product --- or analyzing a product, a safety solvent. And that's what was used prior to this date, there could have been a product used like this. Do you have a copy of where it says 70 percent mineral spirits?

Q. And that's Exhibit Number ---?

ATTORNEY RUVOLO:

Five.

ATTORNEY ERMILIO:

Five.

A. That's the kind of thing that was approved under these two reference numbers.

BY ATTORNEY CUNNINGHAM:

Q. If we can put that aside for a minute because that is in 1979, the date of Exhibit Five. I want to focus on the Exhibit Number One, Defendant's Exhibit One, the McGuigan memo we're talking about. It refers to --- the quote is the general use of cleaners containing chlorinated solvents. Prior to '75, how were chlorinated solvents generally --- or what do they mean by generally used; do you remember?

A. I don't know.
Q. If we move down to ---.
A. I mean I don't know why --- I don't know why the word general exactly, maybe just being too wordy.
Q. Let me direct you to the next paragraph, beginning with, the only uses of chlorinated solvents which will be permitted are in vapor degreasers and with aerosol cans and it gives an account reference number for a limited application. Do you recall whether prior to this memo which appears to be authorizing the chlorinated solvents for vapor degreasers and aerosol cans with limited applications, do you remember whether prior to this chlorinated solvents were used for any other purpose?
A. Electrical cleaning you mean or other than that?
Q. No, other than the two purposes it explained in that first sentence of the third paragraph?
A. The only use of chlorinated solvents that I'm aware of ever is in connection with electrical cleaning in some fashion. Prior to this time, so-called safety solvents had been used to clean electrical equipment, some electrical equipment. And those safety solvents were a mixture of mineral spirits and some chlorinated solvents, and only enough chlorinated solvent to do two

things. One, reduce the fire hazard and secondly, if added a little bit of solvency so it did clean a little better. And they were used in some places to clean electrical equipment, and by that I mean, motor generators were taken apart, traction motors were taken apart. Nothing in a yard, there would be nothing I know of in a yard.

Q. If I were to tell you just for the purpose of this question, if you can assume that motor generators were cleaned in a particular yard, how would they be cleaned with chlorinated solvents?

A. Well, in those early days they would have ---.

Q. Prior to the date of this memo?

A. They would have a pressurized container like a garden sprayer, if you're familiar with that. And they would spray it on and let it set.

Q. And then what?

A. It would drain off and maybe they'd spray some more on and when it was clean the stuff evaporated quick and it was ready to repair or go back into service or whatever. But these were disassembled parts in a shop somewhere, they weren't out along the railroad doing this.

Q. About how much volume-wise, how much would

they use to clean, can you give me an estimate?
A. As compared to all the other cleaners, it was a minimal use because there's not that much electrical.
Q. If I were to clean up a generator as you mentioned earlier, can you give me an estimate, do I use 12 ounces, do I use a gallon can?
A. For a traction motor you'd probably use a couple gallon. Anyway, you'd spray that on and sometimes then they'd steam it off or anything. This was a good solvent and it didn't cause electrical problems, but this depended on how dirty it was and what they were going to do. But they would use it in shops where repairs were being made to this sort of equipment.
Q. Do you know whether they made repairs to this sort of equipment at the Elkhart yard, I mean do you personally ---?
A. From my knowledge of the Elkhart yard way, way, way back before I was born, there was a back shop there and probably there wasn't any electrical equipment then, it was steam locomotives and I can't picture using chlorinated solvents then. And that shop --- well, you maybe know ---.
Q. I'm asking you to focus just on the generators and the type of work you mentioned, do you

know personally if that was done at Elkhart?

A. No, not during any --- no, not after steam locomotives and they didn't need it in steam locomotives.

Q. If we can go back to the second paragraph where we were a minute ago, it says in the first sentence, we reassessed our position on the use of these cleaners and effective immediately the general use of cleaners et cetera, is discontinued. What does effective immediately mean?

A. It means as soon as the guy gets the letter.

Q. And then what would he do?

A. Well, he wouldn't use it anymore, he would order new material under a new reference number.

Q. It says there that the following reference numbers ---.

A. It gives the new reference number to order and when he ordered that, there would not be any chlorinated solvent in it.

Q. If there are, I think if you read through that sentence there, it says the following account reference numbers are canceled and then it gives new ones to use instead. Could a shop order be chlorinated solvents, the old reference numbers?

A. No, purchasing would take that out of the

catalogue, it would not be a number anymore. If you look through the catalogue that number wouldn't be there. If they ordered it, purchasing would notify them that they have to substitute the new reference. I suppose if there was any stock on hand, they'd use it up.

Q. Do you know whether they'd use it up or do you know whether they'd send it back?

A. I would assume human nature being what it is, if there's any stock on hand, they'd use it.

Q. But you don't know whether there was a procedure for using it or for returning it or for disposing of it, you have no idea?

A. Generally speaking ---

Q. I'm not asking you to ---?

A. --- what was left over would be used up and then the new products would be used. But they wouldn't have anything on hand that would carry them over into the next month or anything, they don't carry that kind of stock in most places.

Q. Was Mr. McGuigan known generally throughout the system by the back shop managers?

A. Well, he would be well known because he was the boss of all these people, that's who this letter goes to. He was the chief mechanical officer

responsible for all repairs of both cars and locomotives, assignment of locomotives.

Q. Can you compare the effectiveness of cleaners containing chlorinated solvents as discussed in that memo which had been discontinued by that memo? Can you compare the effectiveness of those cleaners containing chlorinated solvents versus ---?

A. To the new reference?

Q. Sure.

A. To the new reference here?

Q. Yes.

A. Well, I think it even says in here at least the chlorinated solvents adds --- they are generally a better solvent for greases and oils.

Q. How about compared to stoddard solvents?

A. That's what really most of this new material is is stoddard solvent or some other distillate, some other petroleum distillate, and it will cleaned better than stoddard solvents. And secondly, it dries and evaporates quicker, dries off of a cleaned product quicker. And thirdly, it reduces the fire hazard.

Q. Do you know what a vapor degreaser is?

A. What was that?

Q. Do you know what a vapor degreaser is?

A. Yes, I know what that is.

Q. Can you describe it to me?
A. It's a tank large enough to accommodate whatever you want to clean with a lid that closes on it and vent pipes that has heating coils in the bottom to --- it has a refrigerated belt around the top to retain vapors, and it also has a reclaiming distill. The materials are pumped out of the tank, circulated through a still where the clean chlorinated material is put back in the tank then so that you're reusing clean materials all the time.
Q. Do you know whether there was a vapor degreaser at the Elkhart yard?
A. I wouldn't know what they'd do with it there, no. I mean I don't know firsthand that there wasn't, but it would be as unlikely as ice cream in you know where. There would be no use for it there. They didn't do the kind of work that you'd use it. Only major back shops or heavy repair shops.
Q. Do you know, I'm referring to your personal knowledge here, what was used to clean journal boxes at the railyard?
A. I have no idea. There was no cleaner specified as a journal box cleaner. I'm surprised that they cleaned journal boxes to be honest with you, between repairs that is, where they took them into a

shop and put them in a new car. Anyway, somebody said once a month that they said they were cleaning floors, or once a week?

ATTORNEY CUNNINGHAM:

Once a week.

A. Well, that would be the cleanest shop I ever saw.

ATTORNEY ERMILIO:

If you just give me one second to review my notes. I don't any other questions right now.

RE-EXAMINATION

BY ATTORNEY RUVOLO:

Q. I don't recall your complete answer, but I believe in the early part of his questioning, Mr. Cunningham asked you about carbon tetrachloride and you testified that --- well, if you would, repeat your testimony as to the duration and effect of any kind of a spill or usage of the product?

A. Repeat that last part.

Q. I believe you answered Mr. Cunningham in an initial question which dealt with carbon tetrachloride and its lasting effects if there had been a spill or a usage, and its duration if it was spilled on the ground?

A. He asked me if I recall how long it would remain and I assumed he meant if it was spilled onto the ground. And I made the statement something like not too long because of evaporation, because of chemical reaction with the ground and so forth and bacterial action, that based on some experience with lots of other chemicals those three things destroy many things very quickly. Very quickly, I mean in a matter of months or something of that sort. Then he said it was inside of a car so I said well, probably if it was in a sealed car it would stay there forever.

Q. Suppose it wasn't in a sealed car but it spilled because of say a coupling accident?

A. Well, once it was spilled on the ground I can't picture it staying around very long based on --- I don't know where you could read anything about it, but based on what other chemicals have done, I was amazed that nature takes care of things pretty quickly if given half a chance. And we've had cyanide, organic cyanides and things that within a couple of years it was completely destroyed by evaporation, chemical reaction and bacteria. Bacteria will even eat things like that once given some chance, some time. So I can't picture that staying around forever, very long, I mean, I'm not talking about PCPs or anything, but we

know it does stay around. But I would say that these chlorinated solvents we've been talking about would evaporate if exposed to the surface.

Q. If they were used and then hosed off, say a cleaning pad or a concrete pad and chlorinated solvents were used and then hosed off and soaked into the ground, would your answer be the same as far as that product?

A. Well, I don't have any way of saying how long the chlorinated solvents would stay around, if somebody used it when they shouldn't have. One, I wouldn't think that would be a continuing practice. Normally when you do something unauthorized it's sporadic, but if it was a continuing practice, of course, you could be feeding the --- you could keep the chlorinated solvent there for a long time. But if you did it periodically or a few times or during a period of time, I would think not a very long time after that that it would be gone. As if it was one of the long chain organic materials that are not volatile and so forth, they may stay a long time. But carbon tetrachloride is the most volatile of the chlorinated solvents. So that was why one of the reasons these things were used, they evaporate quick and once you're done with your job, it's not there anymore.

Q. And what is your recollection as to the last time carbon tetrachloride was used?

A. Was used? Well, I've never known it to be used. Personally, I have no knowledge of it being used as a cleaner on the railroad or for any use except in fire extinguishers. And they stayed in passenger cars in those brass pyrene fire extinguishers probably up into the 50s and as the --- and they weren't taken out at one time for some reason. Once it was known that carbon tetrachloride was dangerous, they sort of disappeared by attrition out of passenger cars and that's the last use I know of, in fact, that's the only use I know of carbon tetrachloride.

Q. We've heard testimony that they were also used in cabooses?

A. Cabooses.

Q. Yes, as a safety ---?

A. For what?

Q. In the caboose as a safety feature.

ATTORNEY ERMILIO:

Are you referring to fire estinguishers?

A. I suppose that's possible, yes. There could be a fire extinguisher in a caboose. I shouldn't have said passenger cars, anywhere you had a fire

extinguisher of that nature, that would be the last use of it. I'd suppose some shops had those or some offices. Those pyrene fire estinguishers stayed around for a good many years after it got to be known that carbon tetrachloride was dangerous, I guess possibly because they figured it would never be used except in a situation where there was real danger and then they did a good job of putting out a fire, but even that disappeared.

Q. Would your opinion be the same as to products containing TCE or trichloroethylene?

A. Trichloroethylene, well, where it appears in the organic family it doesn't evaporate quite as fast. So, therefore, under the same circumstances it would take longer to evaporate. And I don't think it would be much difference when it comes to chemical reactions in the soil. Those things have a --- those ethylenes all have a double bond in the chain in those double bonds are rather easily broken by a chemical reaction. So I would expect them to react with god only knows what's in the soil. And as I said before, bacteria will eat anything given a chance. So with those three things, they would eventually disappear, too. I don't know how long it would take. I have no way of knowing.

Q. When you say you don't know how long it would

take ---?

A. I don't mean years and years and years. I mean, I don't know whether that would be six months or four years, let's say.

Q. Well, suppose it was found in the ground or groundwater today, what would be your estimate?

ATTORNEY CUNNINGHAM:

Peter, let me interrupt you just a minute. I don't think he's an environmental chemist.

ATTORNEY RUVOLO:

I'm just asking if maybe he wanted to change his opinion or not, I don't know. But if it was found in the ground today, would that change your opinion?

A. No, because I don't know when it got in the ground. I don't know anything about the circumstances and I'm not real --- and I wasn't real definite about the period of time it takes. It just seems unrealistic to me based on experience, not with that particular product but experience in organic hazardous materials in general, leaving out some that we know are chemically resistent and won't evaporate and so forth. Most of these things, nature will take care of them

based on some experience that I've had. I would like to give an example off the record but I suppose ---.

ATTORNEY ERMILIO:

I would like it to remain on the record.

ATTORNEY RUVOLO:

It's better if you give it on.

A. The reason I'd like to give it off the record, the times are estimated and things are not very precise.

ATTORNEY ERMILIO:

Let's not concern ourselves.

ATTORNEY CUNNINGHAM:

I think we've got a fact witness here basically, but we don't mind occasionally asking you questions in his area.

ATTORNEY RUVOLO:

No further questions.

ATTORNEY CUNNINGHAM:

Just a couple.

RE-EXAMINATION

BY ATTORNEY CUNNINGHAM:

Q. Mr. Reed, this Defendant's Exhibit Number One, you'll notice at the top it's a memo relating to electrical cleaners, there's no doubt about that; is there?

A. Uh-huh (yes).

Q. And it's restricted to the use of chlorinated solvents in electrical cleaning situations; is that right?

A. You're right.

Q. Now, with regard to the cleaning of floors, obviously you don't have to be a chemist to know that, you don't use electrical cleaners for that; do you?

ATTORNEY ERMILIO:

Objection.

A. I was going to say that that's the only place there was chlorinated solvents was for electrical cleaners. So if you have chlorinated solvents for floors or for trucks or something, somebody was ---

BY ATTORNEY CUNNINGHAM:

Q. Not supposed to be doing that?

A. --- not following instructions.

Q. Is that the same with journal boxes, too?

A. That would be true of the journal boxes. There's no electrical cleaner approved for cleaning

journal boxes, no chlorinated cleaner approved for cleaning journal boxes.

Q. One last question with regard to the lingering effect of the odor, I guess it would be of carbon tetrachloride, when enclosed, assume that there is some remanent of carbon tetrachloride in an enclosed tank car, would that enclosure tend to make the odor linger for some period of time?

A. The odor linger?

Q. Yes.

ATTORNEY ERMILIO:

Objection, that's very vague.

A. I don't quite know what you're getting at. If the carbon tetrachloride was confined into a closed tank of some sort, it would be carbon tetrachloride in a tank, and it would probably stay there forever.

Q. And you would be able to smell it; wouldn't you?

A. You would be able to smell it, yes, if you opened the tank. There would be nothing that I'm aware of that would cause that chemically to change or it couldn't evaporate unless there was some opening. And I suppose if it had any opening over a long, long period of time, it would evaporate. But that would be a long time, so it would just be carbon tetrachloride

there the same as when you put it there.

ATTORNEY CUNNINGHAM:

I don't any further questions.

ATTORNEY ERMILIO:

I have a couple.

RE-EXAMINATION

BY ATTORNEY ERMILIO:

Q. Have you ever studied, as Pierce called it, Environmental Chemistry or more specifically for this situation the effect of soils in the environment on particular chemicals?

A. Have I studied?

Q. Have you ever studied that?

A. You mean have I taken a course of study on the effect of the environment on chemicals, is that what you're saying?

Q. Well, let me be more particular, that's a vague question. Have you ever studied particularly the effect on carbon tetrachloride if it were spilled on soil?

A. No.

Q. Have you ever studied the evaporation of carbon tetrachloride?

A. No, all I know is what text books would give on it and what I've been able to see and the effect of

the environment on other chemicals had to do with practical experience of learning things that nobody else knew either. The DER was involved and so forth and they didn't know anymore about it than we did and we both learned at the same time.

Q. Let me switch gears for one minute. Did you say there was a cleaner approved for the cleaning of journal boxes?

A. No.

Q. There was no cleaner?

A. There was no cleaner that was specified journal box cleaner.

Q. If I tell you to assume that journal boxes were cleaned with a liquid, do you know what liquid that could be?

A. If it was a liquid cleaner?

ATTORNEY CUNNINGHAM:

You're talking about in Elkhart?

ATTORNEY ERMILIO:

Yes.

BY ATTORNEY ERMILIO:

Q. We have testimony in this case from a number of employees at Elkhart saying they used a liquid to clean journal boxes?

A. You noticed there was a --- and I don't remember what class, you read a class there was a --- how did they word it, a caustic alkaline liquid cleaner. One of these references where you were looking up class what was it, six? You can see my memory's bad. But anyway, there were liquid cleaners that were nothing more than the dry cleaner dissolved that was bought in liquid form because of --- well, they didn't have mixing facilities maybe or something of that sort.

Q. Would that be a solvent?

A. No. The only solvent that would be available to these people would be, and depending on what the year was, if it was after this 1975 it would be ---.

Q. You're referring to the McGuigan Exhibit Number One?

A. It would be the new reference number which would be basically stoddard solvent. They can buy mineral spirits by the drum and they could use that to clean with.

Q. Assume for a second that an employee said that he used a solvent prior to 1975 before this McGuigan memo, we'll call it, Defendant's Exhibit One?

ATTORNEY CUNNINGHAM:

I'm going to object to that because --- well, you can ask him a hypothetical but it doesn't relate.

ATTORNEY ERMILIO:

This procedure here, by the way, Mr. Reed, if I ask a question and he objects, you can go ahead and answer the question, his objection is for the purpose of the record for use later on. But you can answer the question.

A. You want to know what cleaner might have been a solvent cleaner?

BY ATTORNEY ERMILIO:

Q. What solvent was available prior to 1975?

A. It could have been stoddard solvent, we always bought that. Not knowing whether the guy had any concern at all for legitimacy, I suppose he could have gone to the paint shop and got mineral spirits or stoddard solvent that we would normally have been thinning paint with. It could have been one of these Class 9A or B cleaners, if he was using it illegitimately. Again, and he would have to go to an electrical shop or something, somewhere where they did electrical work because it wouldn't have been stored.

ATTORNEY ERMILIO:

I don't have any other questions.

A. So, if it just a solvent ---.

ATTORNEY RUVOLO:

I have one more.

RE-EXAMINATION

BY ATTORNEY RUVOLO:

Q. Since you referred to the previous testimony, were you referring to the electrical cleaner solvent E63 class which was 9C?

A. No. When I said that he would have to go --- that E63 if I remember was in an aerosol can; wasn't it?

Q. Yes.

A. Well, they weren't using that to clean journal boxes, it would take a train load of aerosol cans. That's the reason we allowed it to be used in aerosol cans because a guy isn't going to get much of it in the air from an aerosol can. I'm speaking of --- that's the only reason we allow chlorinated solvents to be used in an aerosol can, because you couldn't get much of it into the environment, into the guy's breathing air or anything else. I was speaking of this Class 9A and Class 9B which were canceled. He could

have probably, by some fashion, had some sent from some repair facility where they did electrical work and they could have used that, I suppose. But this seemed a little farfetched that a workman or even a foreman would say well, I know they have a chlorinated solvent cleaner that cleans well electrical equipment. So let's find out where there's an electric shop and get some of it transferred here, it could happen but it seems farfetched. The chance that they were using a solvent at that time in a yard, the thing most readily available to them would be stoddard solvent or mineral spirits, whichever you want to call it. But that's using logic, I mean, I wasn't there but that's the logic of it.

ATTORNEY RUVOLO:

Thank you very much, Mr. Reed.

* * * * * *

DEPOSITION CONCLUDED AT 3:56 P.M.

* * * * * *

Commonwealth of Pennsylvania) SS:

Commissioner of Deeds)

C E R T I F I C A T E

I, Christine M. Leisure, Commissioner of Deeds for the Commonwealth of Pennsylvania, do hereby certify:

That the witness was hereby first duly sworn to testify to the truth, the whole truth, and nothing but the truth; that the foregoing deposition was taken at the time and place stated herein; and that the said deposition was written in Stenotype by me and reduced to typewriting, and constitutes a true and correct record of the testimony given by the witness.

I further certify that the reading and signing of said deposition were (not) waived by counsel for the respective parties and by the witness.

I further certify that I am not a relative, employee or attorney of any of the parties, nor a relative or employee of counsel, and that I am in no way interested directly or indirectly in this action.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal this 5th day of August 93.

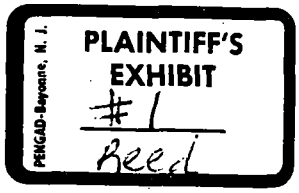
Christine M. Leisure

Christine M. Leisure
Commissioner of Deeds
Cambria County Pennsylvania
My Commission Expires Nov 10, 1997

U.S. Department of Justice

Washington, D.C. 20530

JCC:PHR
90-11-3-594



July 15, 1993

Kenneth Reed
R.D. #5, Box 206
Altoona, PA 16603

United States v. Conrail (N.D. Indiana)
No. S90-00056

Dear Mr. Reed,

Enclosed please find a Notice of Deposition in the above referenced case. Your deposition will be taken on July 22, 1993 at 12:00 p.m. at the offices of Sargent's Reporting, 513 Allegheny Street, Holidaysburg, PA. You are being also served with a subpoena requiring you to bring any notes or documents which are in your possession regarding your employment with the railroad company or at the Elkhart Railyard, Indiana.

This is a civil proceeding involving groundwater contamination in and around the Elkhart facility. You are not a party to this action, but merely a witness. Since you are not a party you will not be represented by counsel at the deposition and therefore you have the right to bring your own legal representative to the deposition.

Please be advised that you are entitled to claim a witness fee for attendance at the deposition and for necessary travel expenses. Therefore, retain all receipts. The reimbursement form is included.

Thank you for your cooperation.

Sincerely,

MYLES FLINT
Acting Assistant Attorney General
Environmental and Natural Resources
Section

by: _____

PETER H. RUVOLO
Trial Attorney
Environmental Enforcement Section
P.O. Box 7611
Ben Franklin Station
Washington, D.C. 20044
(202) 616-6515

enclosure

UNITES STATES DISTRICT COURT
NORTHERN DISTRICT OF INDIANA
SOUTH BEND DIVISION

UNITED STATES OF AMERICA	)	
	)	
Plaintiff,	)	CIVIL ACTION NO. S90-00056
	)	
V.	)	
	)	
CONSOLIDATED RAIL CORPORATION, a/k/a CONRAIL	)	Judge Robert J. Miller
	)	
	)	
Defendant	)	

NOTICE OF DEPOSITION OF KENNETH REED

Pursuant to Rules 30 and 34 of the Federal Rules of Civil Procedure, Plaintiff United States of America shall take the deposition of Kenneth Reed on Thursday, July 22, 1993 at 12:00 p.m. before a notary public at the offices of Sargent's Reporting 513 Allegheny Street, Holidaysburg, PA (814-696-4392) or at such times and locations mutually agreed upon by counsel. The deponent is requested to produce for inspection and copying all documents and tangible things, as defined in Rule 34(a), including but not limited to: all writings; memoranda (both intra and inter-office); correspondence; notes; maps; graphs; charts; tables; data compilations; tests, analyses, photographs; drawings; and recordings of any kind, in his custody or control any records of any releases of hazardous substances into the environment, as these terms are defined in CERCLA Section 101, 42 U.S.C. § 9601, and any unusual occurrences, spills or leaks of hazardous substances in the vicinity of the Robert Young Railyard

in Elkhart, Indiana or in any way associated with the activities, operations or properties at the Railyard facility in the vicinity of Elkhart, Indiana.

The deponent is also requested to produce for inspection and copying documents dealing with the following subjects: oil and lubrication; cleaning products, including electrical solvents, PVC pipes and oil and grease removal. Documents regarding locomotive engine products; gases; plastics; liquids; paints and any additional products believed to contain carbon tetrachloride and/or trichloroethylene.

The Deposition will continue from day to day as necessary.

Dated this 15th day of July 1993.

UNITED STATES OF AMERICA

MYLES E. FLINT
Acting Assistant Attorney General
Environment and Natural Resources Division

PETER E. JAFFE and
PETER H. RUVOLO
Trial Attorneys
Environmental Enforcement Section
Environment and Natural Resources Division
United States Department of Justice
P.O. Box 7611 Ben Franklin Station
Washington, D.C. 20044
(202) 514-3909

DAVID CAPP
United States Attorney
Northern District of Indiana

CLIFFORD JOHNSON
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204 South Main Street
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South Bend, Indiana 46601

OF COUNSEL:

STEVEN MASON
Assistant Regional Counsel
U.S. Environmental Protection Agency
Region V
77 West Jackson Blvd.
Chicago, IL 60604
(312) 886-6831

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF INDIANA
SOUTH BEND DIVISION

UNITED STATES OF AMERICA, Plaintiff, V. CONSOLIDATED RAIL CORPORATION, a/k/a CONRAIL, Defendant.	)	CIVIL ACTION NO. S90-0056 Judge Robert J. Miller

NOTICE OF FILING OF DISCOVERY

On the 15th day of July, 1993, Plaintiff, the United States of America, on behalf of the United States Environmental Protection Agency, served on counsel of record the attached Notice of Deposition as described in the attached certificate of service.

Dated: July 15, 1993

Respectfully submitted,

MYLES E. FLINT
Acting Assistant Attorney General
Environment and Natural Resources Division

PETER E. JAFFE
PETER H. RUVOLO
Trial Attorneys
Environmental Enforcement Section
Environment and Natural Resources Division
United States Department of Justice
P.O. Box 7611
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DAVID CAPP
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M01 Federal Building
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OF COUNSEL:

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Assistant Regional Counsel
U.S. Environmental Protection Agency
Region V
230 S. Dearborn Street
Chicago, IL 60604
(312) 886-6831

AO 88 (Rev. 11/91) Subpoena in a Civil

United States District Court

NORTHERN DISTRICT OF INDIANA

UNITED STATES OF AMERICA
V.
CONRAIL

SUBPOENA IN A CIVIL CASE

CASE NUMBER: S90-00056

PLAINTIFF'S EXHIBIT #3 Reed
PENGAD-Bayonne, N. J.

TO: KENNETH REED
R.D #5, Box 206
Altoona, PA 16603

☐ YOU ARE COMMANDED to appear in the United States District Court at the place, date, and time specified below to testify in the above case.

PLACE OF TESTIMONY	COURTROOM
	DATE AND TIME

☒ YOU ARE COMMANDED to appear at the place, date, and time specified below to testify at the taking of a deposition in the above case.

PLACE OF DEPOSITION	DATE AND TIME
Sargent's Reporting 513 Allegheny Street Holidaysburg, PA	July 22, 1993 12:00 p.m.

☒ YOU ARE COMMANDED to produce and permit inspection and copying of the following documents or objects at the place, date, and time specified below (list documents or objects):

See Notice of Deposition attached herewith.

PLACE	DATE AND TIME

☐ YOU ARE COMMANDED to permit inspection of the following premises at the date and time specified below.

PREMISES	DATE AND TIME

Any organization not a party to this suit that is subpoenaed for the taking of a deposition shall designate one or more officers, directors, or managing agents, or other persons who consent to testify on its behalf, and may set forth, for each person designated, the matters on which the person will testify. Federal Rules of Civil Procedure, 30(b)(6).

ISSUING OFFICER SIGNATURE AND TITLE (INDICATE IF ATTORNEY FOR PLAINTIFF OR DEFENDANT)	DATE
Peter H. Ruvolo	7/15/93

ISSUING OFFICER'S NAME, ADDRESS AND PHONE NUMBER

Peter Ruvolo, Attorney Dept. of Justice, P.O. Box 7611, Ben Franklin Station, Washington, D.C. 20044

(See Rule 45, Federal Rules of Civil Procedure, Parts C & D on Reverse)

CERTIFICATE OF SERVICE

I hereby certify that the forgoing Plaintiff United States of America's Notice of Deposition has been served upon the following parties by facsimile and first class United States mail on this 15th day of July, 1993.

Signed,

Maria T. Palveri

Paul J. Lambert
James A. Ermilio
Bingham, Dana & Gould
1550 M Street, N.W.
Suite 1200
Washington, D.C. 20005

Pierce E. Cunningham
2500 Central Trust Center
201 East 5th Street
Cincinnati, OH 45202

And upon the following parties by first class United States mail.

James V. Woodsmall
Warrick, Weaver & Brown
121 West Franklin Street
Midwest Commerce Bldg.
Suite 400
Elkhart, IN 46516-3284

Pierre C. Talbert
Foley & Lardner
One IBM Plaza
330 North Wabash
Suite 3300
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Paul F. Ware, Jr.
Christopeher P. Davis
Robert A. Freeman
Goodwin, Procter & Hoar
Exchange Place
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Philip R. Boxell, Jr.
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Steve Mason
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Beth Schneider Naylor
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25k00 Central Trust Ctr.
201 East 5th Street
Cincinnati, OH 45202

John H. Peddycord
May, Oberfell & Lorber
300 North Michigan St.
South Bend, IN 46601

CONRAIL

DATE July 5, 1978 381.4

TO J. T. Tyler LOCATION Diesel Terminal Avon, IN

FROM K. D. Reed LOCATION Collinwood, OH

SUBJECT POSSIBLE ALLERGY OF MAINTENANCE ELECTRICIAN, AND TI REQUEST FOR THE COMPOSITION OF E-63 ELECTRICAL CLE

Confirming your verbal request for the composition of E-63 electrical cleaner, in order to assist the doctors in evaluating the cause of the rash on a railroad maintenance electrician.

E-63 electrical cleaner contains carbon-dioxide as the propellant and methyl chloroform (1,1,1 trichloroethane) as the solvent. Methyl chloroform has replaced carbon tetrachloride and other halogenated hydrocarbons in the cleaning industry mainly because of its similar physical properties and much lower toxicity.

Any of the organic solvents should be handled with the proper precautions and not allowed excess contact with the skin. Even diesel fuel can cause defatting of the skin. If we can be of any further assistance, please do not hesitate to contact us.

RWC:smn

cc: E. T. Harley
D. L. Schucker

PLAINTIFF'S EXHIBIT #4 Reed

cc F L Mangiacarro

~~cc J J B~~

~~cc~~

as ilo
EJU
7-10-78

CONRAIL

MEMORANDUM

DATE July 25, 1979 FILE 381.4

TO T. E. Hunley LOCATION Gen. Foreman - Maint. Altoona, PA

FROM K. D. Reed LOCATION Technical Service Lab Collinwood, OH

SUBJECT CLEANER - POLYCHEM USD-401

Confirming our July 9, 1979, telephone report, herewith is the analysis of the sample of Polychem USD-401 you forwarded to the Technical Service Laboratory.

Analysis of Polychem USD-401

Mineral Spirits - 70%

Perchlorethylene - 25%

Methylene Chloride - 5%

Cleaners of this type are usually referred to as "Safety Solvents". They are formulated by adding chlorinated solvents such as perchloroethylene to mineral spirits to raise the flash point of the latter. The Polychem USD-401 boiled at approximately 120°F and would catch fire (fire point) at 220°F.

Please note that cleaners of this type are not permitted to be used on Conrail for in-place cleaning of electrical motors, because of the presence of the chlorinated solvents, perchloroethylene and methylene chloride. Chlorinated solvents can be toxic if improperly used; therefore, their use on Conrail is restricted to 16 oz. aerosol cans and in vapor degreasers which are specially designed to confine the vapor.

If we can be of further assistance, please contact us.

DLG:sum

cc: J. B. Gregory

PLAINTIFF'S EXHIBIT #5 Reed

OPTIONAL FORM 99 (7-90) FAX TRANSMITTAL # of pages ▶

To Peter Rurdo From Steve Mason

Dept./Agency Phone #

Fax # Fax #

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

CLEANING CHEMICAL USAGE IN GALLONS PER YEAR

Terminal Number	Name	Locomotives Washed Repaired (Avg. Per Month)		Stock Account & Reference Number 47 138 351 Class 14	47 142 155 Class 7A	47 142 163 Class 7B
0028	DeWitt	143	300	2,200	234,102	6,244
0151	Morrisville	73	70	550	48,958	-
0295	Brier Hill	107	290	8,126	12,336	-
0510	Avon	262	460	15,700	10,120	880
0703	Selkirk	429	1,020	101,585	177,409	178,391
0707	Enola	754	1,120	34,705	224,470	127,875
0710	Harrisburg	282	570	13,915	95,061	440
0712	Conway	386	750	3,530	18,071	-
0713	Stanley (Toledo)	244	730	18,818	18,698	-
0714	Collinwood D.T.	318	560	25,449	265,099	1,730
0720	Columbus	301	520	3,185	105,804	43,272

MEMORANDUM

G-6 R3 12-76
PRINTED IN U.S.A.

CONRAIL

DATE July 30, 1979

TO D. L. Schucker

LOCATION Technical Services Lab
Cleveland, OH 44110

FROM F. L. Manganaro

LOCATION 15th Floor - 1818 Market
Philadelphia, PA

SUBJECT Chemical Cleaning Agents

As per our telephone conversation this date, attached is a copy of "CLEANING CHEMICAL USAGE IN GALLONS PER YEAR," forwarded for your information.

df
Attachment

PLAINTIFF'S EXHIBIT #6 Reed

1634 Transportation Center
Philadelphia, Pa. 19104
January 20, 1975 (10;1 rtn/w)
File: 381.4

SUBJECT: ELECTRICAL CLEANERS

Messrs:	G. J. Huemmrich	C. A. Korn	J. S. Fadale
	C. W. Cole	W. T. Roberts	J. W. Boughton
	J. A. Dulitto	R. F. Doyle	W. L. Thigpen
	M. J. Chandler	F. R. Immelt	L. W. Brennan

For a number of years two distinct types of electrical cleaners have been available for use on railroad equipment. The first of these is petroleum distillates such as low-flash naphthas and the second is chlorinated solvents, either straight or mixed with petroleum distillates. The chlorinated solvents were used when the fire hazard was of the greatest concern, and when the ventilation was sufficient to minimize the health hazard.

We have reassessed our position on the use of these cleaners and effective immediately the general use of cleaners containing chlorinated solvents is discontinued and suitable petroleum distillates are to be used instead, therefore, the following Account and Reference Numbers are cancelled:

47-133378 (Class 9A) - Cancel use instead 47-755600
47-133386 (Class 9B) - Cancel use instead 47-755600

The only uses of chlorinated solvents which will be permitted are in vapor degreasers, and with aerosol cans (Acct. and Ref. No. 47-138309) for limited applications. Vapor degreasers are so designed that the chlorinated solvent vapors are easily and effectively confined and minimized. When using aerosol cans for electrical cleaning very little product is used at one time, however, cautions must still be exercised to insure adequate ventilation.

The use of petroleum distillates as electrical cleaners may necessitate some changes in cleaning procedures. When substituting petroleum distillates for a Class 9A electrical cleaner you will get the same or a slightly higher flash point, but the parts will need more drying time. In substituting petroleum distillates for a Class 9B electrica cleaner the most important difference is in the flash point and the flammability of the new solvents. The Class 9B cleaners are non-flammabl and have no flash point. Petroleum distillates have a flash point of 125°F. or higher and are flammable.

It will be necessary to reeducate some of our personnel so that they do not smoke or use flames where petroleum distillates are being used. In addition, dirty rags can no longer be simply piled in a corner or carelessly discarded since they will now be a fire hazard. It will be important to assure that parts are thoroughly dried after cleanin so that they will not ignite when put into service.

DEFENDANT'S EXHIBIT #1 Rec'd

RECEIVED
JAN 24 1975
RESEARCH CENT.
COLUMBUS, OHIO

Laboratory and field tests are already underway on some highly refined, high-flash, electrical cleaners. A separate account and reference number will be assigned to cover such a specialty cleaner when our tests are completed. In the interim, stoddard solvent, Account and Reference No. 47-755600 can be used for most electrical cleaning where Class 9A or 9B cleaners were used.

If there are any questions on these products, please contact our Chief Chemist, R. T. Noonan, on TeleCentral 846-7352.

J. M. McGuigan
Chief Mechanical Officer

CC: Messrs: J. C. White
R. E. Feeley
Dr. J. W. Simpson
J. T. Lynch
J. P. Sherron
F. A. Zimmerman
F. L. Manganaro
K. D. Reed
E. T. Harley

RTN 1/24/75
RFL
RTH ? notice this letter has been retyped to add M.J.C. and put shop managers at head of letter instead of receiving copies.
KDR 1/24